### S1 Table. Percentage of missing data imputed in the daily series of meteorological variables for each monitor.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Source | Frequency\* | Station ID | Temperature | Relative humidity |
| DCEA  | Daily | 83054 | 9.1  | 9.1 |
| DCEA  | Daily | 83115 | 8.9  | 8.9 |
| DCEA  | Daily | 83746 | 1.7  | 1.7 |
| DCEA  | Daily | 83748 | 11.4  | 10.8 |
| DCEA  | Daily | 83755 | 6.0  | 6.1 |
| DCEA  | Daily | 83743 | excluded  | excluded |
| INMET  | Daily | A621  | 1.6  | 1.7 |
| INMET  | Daily | A652 | 0 | 0 |
| SMAC  | Hourly | AV  | 1.2  | 1.2 |
| SMAC  | Hourly | BG  | excluded  | 2.6 |
| SMAC  | Hourly | CA  | excluded  | excluded |
| SMAC  | Hourly | CG  | 1.5  | excluded |
| SMAC  | Hourly | IR  | 1.3  | 1.9 |
| SMAC  | Hourly | PG  | 2.1  | excluded |
| SMAC  | Hourly | SC  | 1.4  | 2.1 |
| SMAC  | Hourly | SP  | 2.3  | 2.0 |

\* Record frequency of crude data provided.

DCEA: Department of Airspace Control (*Departamento de Controle do Espaço Aéreo*). INMET: National Institute of Meteorology (*Instituto Nacional de Meteorologia*). SMAC: Rio de Janeiro Municipal Secretariat for the Environment (*Secretaria Municipal de Meio Ambiente do Rio de Janeiro*). Stations with more than 20% missing data per year, and more than 15% over the study period, were excluded.

Additional information about data availability:

* Data from DCEA were obtained from the PROTIM/CPTEC/INPE (Portal de Tecnologia da Informação para Meteorologia, Centro de Previsão do Tempo e Estudos Climáticos, Instituto Nacional de Pesquisas Espaciais) system, website currently not working. Nowadays, the dataset from DCEA can be downloaded at: <https://bndmet.decea.mil.br/>.
* Data from INMET can be obtained from the INMET meteorological database system (BDMEP) at [https://bdmep.inmet.gov.br/#](https://bdmep.inmet.gov.br/);
* Data from SMAC can be obtained from the website DATA.RIO ([https://www.data.rio/maps/PCRJ::qualidade-do-ar-dados-hor%C3%A1rios/about](https://www.data.rio/maps/PCRJ%3A%3Aqualidade-do-ar-dados-hor%C3%A1rios/about)).